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Published

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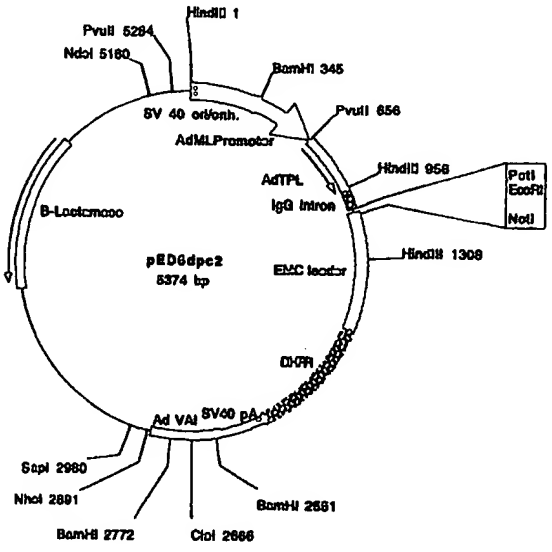
(54) Title: SECRETED PROTEINS AND POLYNUCLEOTIDES ENCODING THEM

(57) Abstract

Novel polynucleotides and the proteins encoded thereby are disclosed.



Plasmid name: pED6dpc2
Plasmid size: 5374 bp

Comments/Reference: pED6dpc2 is derived from pED6dpc1 by insertion of a new polylinker to facilitate cDNA cloning. SST cDNAs are cloned between EcoRI and NotI. pED vectors are described in Kaufman et al.(1991), NAR 19: 4485-4490.

PA (UYCA-) UNIV CASE WESTERN RESERVE.
XX
PI Montano M, Wittman B;
XX
DR WPI; 2002-519107/55.
DR P-PSDB; ABB76495.
XX
PT Polynucleotides encoding Estrogen Down-Regulated Gene 1 proteins,
PT useful for the prevention, diagnosis and treatment of e.g. breast
PT cancer, testicular cancer, prostate cancer, uterine cancer, cervical
PT cancer, ovarian cancer and colon cancer -
XX
PS Claim 1; Fig 1A-B; 52pp; English.
XX
CC The present sequence is the coding sequence for human oestrogen
CC downregulated gene 1 (EDG1), a tumour suppressor gene that is
CC downregulated by oestrogen in mammary epithelial cells. The gene
CC was identified by yeast two-hybrid screenings for oestrogen
CC receptor-interacting proteins in breast epithelial cells. It
CC was localised to chromosome arm 17q. EDG1 mRNA expression is
CC prevalent in normal mammary epithelial cells and in other human
CC hormone-responsive tissues such as the ovary, prostate and testis.
CC Expression is low in breast cancer epithelial cells. Oestradiol,
CC which induces breast cancer cell growth, has an inhibitory effect
CC on EDG1 mRNA expression in breast cancer cells. Hexamethylene
CC bis-acetamide, an inducer of differentiation and apoptosis,
CC upregulates EDG1 mRNA expression in breast cancer cells. The
CC invention provides EDG1 polynucleotides and polypeptides. In a
CC claimed method, a test sample from an individual suspected of
CC having, or known to have breast, testicular, prostate, uterine,
CC cervical, ovarian or colon cancer is assayed for EDG1 transcript
CC using a polynucleotide that is complementary to the present
CC sequence or by RT-PCR using a primer derived from the present
CC sequence. A decrease in the level of transcript compared to the
CC level in a test sample indicates that the test sample contains or
CC was derived from cancerous cells antibody. A claimed method for
CC decreasing the proliferation of breast, prostate, testicular,
CC ovarian, uterine, cervical or colon cancer cells involves increasing
CC EDG1 protein activity in the cells, either by contacting the cells
CC with EDG1 protein or its fragment or functional equivalent, or with
CC a nucleic acid encoding EDG1 protein, its fragment or functional
CC equivalent.
XX
SQ Sequence 1080 BP; 265 A; 296 C; 376 G; 143 T; 0 other;

Query Match 100.0%; Score 1080; DB 24; Length 1080;
Best Local Similarity 100.0%; Pred. No. 8.7e-214;
Matches 1080; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 ATGGCCGAGCCATTCTTGTCAGAATATCAACACCAGCCTCAAACTAGCAACTGTACAGGT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 ATGGCCGAGCCATTCTTGTCAGAATATCAACACCAGCCTCAAACTAGCAACTGTACAGGT 60

Qy         61 GCTGCTGCTGTCCAGGAAGAGCTGAACCCTGAGCGCCCCCCAGGCGCGGAGGAGCGGGTG 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GCTGCTGCTGTCCAGGAAGAGCTGAACCCTGAGCGCCCCCCAGGCGCGGAGGAGCGGGTG 120

Qy        121 CCCGAGGAGGACAGTAGGTGGCAATCGAGAGCGTTCCCCCAGTTGGGTGGCCGTCCGGGG 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 CCCGAGGAGGACAGTAGGTGGCAATCGAGAGCGTTCCCCCAGTTGGGTGGCCGTCCGGGG 180

Qy        181 CCGGAGGGGGAAGGGAGCCTGGAATCCCAACCACCTCCCTTGCAGACCCAGGCCTGTCCA 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 CCGGAGGGGGAAGGGAGCCTGGAATCCCAACCACCTCCCTTGCAGACCCAGGCCTGTCCA 240

Qy        241 GAATCTAGCTGCCTGAGAGAGGGCGAGAAGGGCCAGAATGGGGACGACTCGTCCGCTGGC 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 GAATCTAGCTGCCTGAGAGAGGGCGAGAAGGGCCAGAATGGGGACGACTCGTCCGCTGGC 300

Qy        301 GGCGACTTCCCGCCGCCGGCAGAAGTGGAACCGACGCCCGAGGCCGAGCTGCTCGCCCAG 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 GGCGACTTCCCGCCGCCGGCAGAAGTGGAACCGACGCCCGAGGCCGAGCTGCTCGCCCAG 360

Qy        361 CCTTGTCATGACTCCGAGGCCAGTAAGTTGGGGGCTCCTGCCGCAGGGGGCGAAGAGGAG 420
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        361 CCTTGTCATGACTCCGAGGCCAGTAAGTTGGGGGCTCCTGCCGCAGGGGGCGAAGAGGAG 420

Qy        421 TGGGGACAGCAGCAGAGACAGCTGGGGAAGAAAAAACATAAGAGACGCCCGTCCAAGAAG 480
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        421 TGGGGACAGCAGCAGAGACAGCTGGGGAAGAAAAAACATAAGAGACGCCCGTCCAAGAAG 480

Qy        481 AAGCGGCATTGGAAACCGTACTACAAGCTGAACTGGGAAGAGAAGAAAAAGTTCGACGAG 540
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        481 AAGCGGCATTGGAAACCGTACTACAAGCTGAACTGGGAAGAGAAGAAAAAGTTCGACGAG 540

Qy        541 AAACAGAGCCTTCGAGCTTCAAGGATCCGAGCCGAGATGTTCGCCAAGGGCCAGCCGGTC 600
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        541 AAACAGAGCCTTCGAGCTTCAAGGATCCGAGCCGAGATGTTCGCCAAGGGCCAGCCGGTC 600

Qy        601 GCGCCCTATAACACCACGCAGTTCCTCATGGATGATCACGACCAGGAGGAGCCGGATCTC 660
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        601 GCGCCCTATAACACCACGCAGTTCCTCATGGATGATCACGACCAGGAGGAGCCGGATCT

Qy        661 AAAACCGGCCTGTACTCCAAGCGGGCCGCCGCCAAATCCGACGACACCAGCGATGACG
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        661 AAAACCGGCCTGTACTCCAAGCGGGCCGCCGCCAAATCCGACGACACCAGCGATGACG

Qy        721 TTCATGGAAGAAGGGGGTGAGGAGGATGGGGGCAGCGATGGGATGGGAGGGGACGGC
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        721 TTCATGGAAGAAGGGGGTGAGGAGGATGGGGGCAGCGATGGGATGGGAGGGGACGGC

Qy        781 GAGTTTCTGCAGCGGGACTTCTCGGAGACGTACGAGCGGTACCACACGGAGAGCCT
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        781 GAGTTTCTGCAGCGGGACTTCTCGGAGACGTACGAGCGGTACCACACGGAGAGCC

Qy        841 AACATGAGCAAGCAGGAGCTCATCAAGGAGTACCTGGAACTGGAGAAGTGCCTC
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        841 AACATGAGCAAGCAGGAGCTCATCAAGGAGTACCTGGAACTGGAGAAGTGCCTC

Qy        901 ATGGAGGACGAGAACAACCGGCTGCGGCTGGAGAGCAAGCGGCTGGGTGGCGA
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        901 ATGGAGGACGAGAACAACCGGCTGCGGCTGGAGAGCAAGCGGCTGGGTGGCGACGAC

Qy        961 CGTGTGCGGGAGCTGGAGCTGGAGCTGGACCGGCTGCGCGCCGAGAACCTCCAGCTGCTG 1020
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        961 CGTGTGCGGGAGCTGGAGCTGGAGCTGGACCGGCTGCGCGCCGAGAACCTCCAGCTGCTG 1020

Qy       1021 ACCGAGAACGAACTGCACCGGCAGCAGGAGCGAGCGCCGCTTTCCAAGTTTGGAGACTAG 1080
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1021 ACCGAGAACGAACTGCACCGGCAGCAGGAGCGAGCGCCGCTTTCCAAGTTTGGAGACTAG 1080
```

RESULT 2
AAV82778
ID AAV82778 standard; cDNA; 2199 BP.
XX
AC AAV82778;
XX
DT 25-FEB-1999 (first entry)
XX
DE Clone bp783_3 isolated from human foetal kidney cDNA library.
XX
KW Secreted protein; nutritional activity; immune stimulating; vaccine;
KW suppressing activity; haematopoiesis regulating activity;
KW tissue growth activity; activin; inhibin activity; chemotactaxis;
KW chemokinetic activity; haemostasis; thrombolytic activity; receptor;
KW ligand; anti-inflammatory; cadherin; tumour invasion suppressor;
KW tumour inhibition; gene therapy; ds.
XX
OS Homo sapiens.
XX
PN WO9842739-A2.
XX
PD 01-OCT-1998.
XX
PF 20-MAR-1998; 98WO-US05653.

XX
PR 19-MAR-1998; 98US-0044466.
PR 21-MAR-1997; 97US-0822167.
XX
PA (GEMY) GENETICS INST INC.
XX
PI Agostino MJ, Jacobs K, Lavallie ER, McCoy JM, Merberg D;
PI Racie LA, Spaulding V, Treacy M;
XX
DR WPI; 1998-609890/51.
DR P-PSDB; AAW85455.
XX
PT New polynucleotides encoding secreted human proteins - derived from
PT human foetal brain, adult brain, foetal kidney, placenta or adult
PT pineal gland cDNA libraries.
XX
PS Claim 1; Page 66-67; 113pp; English.
XX
CC The present sequence encodes a secreted protein. The polynucleotide and
CC secreted protein are predicted to have biological activities which would
CC make them suitable for treating, preventing or ameliorating medical
CC conditions in humans and animals, although no supporting data is given.
CC Suggested activities include nutritional activity, immune stimulating
CC (e.g. as vaccines) or suppressing activity, haematopoiesis regulating
CC activity, tissue growth activity, activin/inhibin activity,
CC chemotactic/chemokinetic activity, haemostatic and thrombolytic activity,
CC receptor/ligand activity, anti-inflammatory activity, cadherin/tumour
CC invasion suppressor activity, and tumour inhibition activity (no data is
CC given in the specification to support these activities). The
CC polynucleotide is also stated to be useful for gene therapy.
XX
SQ Sequence 2199 BP; 552 A; 511 C; 674 G; 462 T; 0 other;

Query Match 99.7%; Score 1076.8; DB 19; Length 2199;
Best Local Similarity 99.8%; Pred. No. 4.5e-213;
Matches 1078; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

```
Qy          1 ATGGCCGAGCCATTCTTGTCAGAATATCAACACCAGCCTCAAACTAGCAACTGTACAGGT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        707 ATGGCCGAGCCATTCTTGTCAGAATATCAACACCAGCCTCAAACTAGCAACTGTACAGGT 766

Qy         61 GCTGCTGCTGTCCAGGAAGAGCTGAACCCTGAGCGCCCCCCAGGCGCGGAGGAGCGGGTG 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        767 GCTGCTGCTGTCCAGGAAGAGCTGAACCCTGAGCGCCCCCCAGGCGCGGAGGAGCGGGTG 826

Qy        121 CCCGAGGAGGACAGTAGGTGGCAATCGAGAGCGTTCCCCCAGTTGGGTGGCCGTCCGGGG 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        827 CCCGAGGAGGACAGTAGGTGGCAATCGAGAGCGTTCCCCCAGTTGGGTGGCCGTCCGGGG 886

Qy        181 CCGGAGGGGGAAGGGAGCCTGGAATCCCAACCACCTCCCTTGCAGACCCAGGCCTGTCCA 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        887 CCGGAGGGGGAAGGGAGCCTGGAATCCCAACCACCTCCCTTGCAGACCCAGGCCTGTCCA 946

Qy        241 GAATCTAGCTGCCTGAGAGAGGGCGAGAAGGGCCAGAATGGGGACGACTCGTCCGCTGGC 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        947 GAATCTAGCTGCCTGAGAGAGGGCGAGAAGGGCCAGAATGGGGACGACTCGTCCGCTGGC 1006

Qy        301 GGCGACTTCCCGCCGCCGGCAGAAGTGGAACCGACGCCCGAGGCCGAGCTGCTCGCCCAG 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1007 GGCGACTTCCCGCCGCCGGCAGAAGTGGAACCGACGCCCGAGGCCGAGCTGCTCGCCCAG 1066

Qy        361 CCTTGTCATGACTCCGAGGCCAGTAAGTTGGGGGCTCCTGCCGCAGGGGGCGAAGAGGAG 420
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1067 CCTTGTCATGACTCCGAGGCCAGTAAGTTGGGGGCTCCTGCCGCAGGGGGCGAAGAGGAG 1126

Qy        421 TGGGGACAGCAGCAGAGACAGCTGGGGAAGAAAAAACATAAGAGACGCCCCGTCCAAGAAG 480
              |||||||||||||||||||||||||||||||||||| ||||||||||||||||||||||
Db       1127 TGGGGACAGCAGCAGAGACAGCTGGGGAAGAAAAAACATAGGAGACGCCCGTCCAAGAAG 1186

Qy        481 AAGCGGCATTGGAAACCGTACTACAAGCTGAACTGGGAAGAGAAGAAAAAGTTCGACGAG 540
              |||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||
Db       1187 AAGCGGCATTGGAAACCGTACTACAAGCTGACCTGGGAAGAGAAGAAAAAGTTCGACGAG 1246

Qy        541 AAACAGAGCCTTCGAGCTTCAAGGATCCGAGCCGAGATGTTCGCCAAGGGCCAGCCGGTC 600
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1247 AAACAGAGCCTTCGAGCTTCAAGGATCCGAGCCGAGATGTTCGCCAAGGGCCAGCCGGTC 1306

Qy        601 GCGCCCTATAACACCACGCAGTTCCTCATGGATGATCACGACCAGGAGGAGCCGGATCTC 660
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1307 GCGCCCTATAACACCACGCAGTTCCTCATGGATGATCACGACCAGGAGGAGCCGGATCTC 1366

Qy        661 AAAACCGGCCTGTACTCCAAGCGGGCCGCCGCCAAATCCGACGACACCAGCGATGACGAC 720
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1367 AAAACCGGCCTGTACTCCAAGCGGGCCGCCGCCAAATCCGACGACACCAGCGATGACGAC 1426

Qy        721 TTCATGGAAGAAGGGGGTGAGGAGGATGGGGGCAGCGATGGGATGGGAGGGGACGGCAGC 780
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1427 TTCATGGAAGAAGGGGGTGAGGAGGATGGGGGCAGCGATGGGATGGGAGGGGACGGCAGC 1486

Qy        781 GAGTTTCTGCAGCGGGACTTCTCGGAGACGTACGAGCGGTACCACACGGAGAGCCTGCAG 840
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1487 GAGTTTCTGCAGCGGGACTTCTCGGAGACGTACGAGCGGTACCACACGGAGAGCCTGCAG 1546

Qy        841 AACATGAGCAAGCAGGAGCTCATCAAGGAGTACCTGGAACTGGAGAAGTGCCTCTCGCGC 900
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1547 AACATGAGCAAGCAGGAGCTCATCAAGGAGTACCTGGAACTGGAGAAGTGCCTCTCGCGC 1606

Qy        901 ATGGAGGACGAGAACAACCGGCTGCGGCTGGAGAGCAAGCGGCTGGGTGGCGACGACGCG 960
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1607 ATGGAGGACGAGAACAACCGGCTGCGGCTGGAGAGCAAGCGGCTGGGTGGCGACGACGCG 1666

Qy        961 CGTGTGCGGGAGCTGGAGCTGGAGCTGGACCGGCTGCGCGCCGAGAACCTCCAGCTGCTG 1020
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Db       1667 CGTGTGCGGGAGCTGGAGCTGGAGCTGGACCGGCTGCGCGCCGAGAACCTCCAGCTGCTG 1726

Qy       1021 ACCGAGAACGAACTGCACCGGCAGCAGGAGCGAGCGCCGCTTTCCAAGTTTGGAGACTAG 1080
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1727 ACCGAGAACGAACTGCACCGGCAGCAGGAGCGAGCGCCGCTTTCCAAGTTTGGAGACTAG 1786
```

RESULT 3
ABQ92015
ID ABQ92015 standard; cDNA; 2199 BP.
XX
AC ABQ92015;
XX
DT 04-OCT-2002 (first entry)
XX
DE Human polynucleotide SEQ ID NO 12.
XX
KW Human; cytostatic; antirheumatic; antiarthritic; vulnerary; analgesic;
KW antiinflammatory; antibacterial; immunosuppressive; antiparkinsonian;
KW neuroprotective; nootropic; osteopathic; haemostatic; vasotropic;
KW antiulcer; fungicide; antidiabetic; antiasthmatic; antiallergic;
KW immunostimulant; antiparasitic; secreted protein; transmembrane protein;
KW cytokine; cell proliferation; cell differentiation; autoimmune disease;
KW stem cell; growth factor; nervous system disease; neuropathy;
KW Alzheimer's disease; Parkinson's disease; Huntington's disease;
KW osteoporosis; severe combined immunodeficiency; SCID; infection;
KW multiple sclerosis; rheumatoid arthritis; gene therapy; gene; ss.
XX
OS Homo sapiens.
XX
PN US2002065394-A1.
XX
PD 30-MAY-2002.
XX
PF 22-DEC-2000; 2000US-0745763.
XX
PR 18-MAR-1998; 98US-0040963.
XX
PA (JACO/) JACOBS K.
PA (MCCO/) MCCOY J M.
PA (LAVA/) LAVALLIE E R.
PA (COLL/) COLLINS-RACIE L A.
PA (EVAN/) EVANS C.